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NUMBER 13

1. Eire Cuts Final Tie with British Crown Hoopes
2. "Kitty Hawk" Return Recalls Odd Sidelights Hoopes
3. India's Constitution Bans Untouchability Eikman
4. Uranium Prospectors Made '48 Banner Year Eikman
5. Siam May Trade Rice for Railroads Hoopes - Atwater

HARRISON HOWELL WALKER

IRISH SMILES ENLIVEN A QUIET HOUR AT THE POTATO MARKET IN CORK, EIRE (Bulletin No. 1)

Eire Cuts Final Tie with British Crown

ROCK-ribbed Eire, busily severing its last official ties to the British crown, looks for nationhood with no strings attached in the very near future.

But when it comes to trade ties, the green land of St. Patrick seeks more of them with the United Kingdom and the seven British dominions. About half Eire's imports come from, and virtually all its exports go to, Great Britain and Northern Ireland. Canada and India also figure heavily in its import trade.

Empire Link Slender

In matters of government, however, being "an independent republic associated as a matter of external policy with the states of the British Commonwealth" does not suit the Irish of Eire. The "Republic of Ireland bill," already well on its way to becoming law in Eire, will make the state an independent republic—period.

Technically a dominion, Eire's tie to the crown in late years has been slighter than that of other dominions. In exchange for preferential trade and tariff treatment and advantages of British citizenship for its nationals, Eire is bound only to have the British king sign the credentials of its diplomatic ministers to all nations. Even this slight recognition of the crown will be forgotten under the new law.

An Irish revolt against Britain on Easter Sunday, in 1916, led to a declaration of independence by an Irish congress 30 years ago next January 21. The Irish Free State operated under a constitution effective from 1922 to 1937.

The 1937 constitution provides for a president, to be elected by the people every seven years. That it marked the successful creation of an independent republic was well demonstrated when Eire maintained its neutrality throughout World War II.

Irish Counties Divided Six to Twenty-six

In the eyes of many Irishman, however, the republic, even with its new status, cannot be complete as long as six northern counties prefer to remain in the United Kingdom, thus partitioning the Emerald Isle.

The six counties around Belfast, matching Connecticut in total area, constitute Northern Ireland, strong in its allegiance to the British Commonwealth. Eire's 26 counties occupy the remaining four-fifths of the island, with Dublin (Baile Atha Cliath) as capital and largest city.

Dublin's half million people live on Eire's east coast, a 70-mile ferry ride separating them from the British rail terminus at Holyhead, Wales. Cork, the second city, near the island's southern tip, counts 75,000 inhabitants (illustration, next page).

For the most part, Eire is green countryside, lightly sprinkled with white-cottage villages. Coal for industry is lacking so two-thirds of the little state's three million people are engaged in farming. Livestock and a variety of foods are their important contribution to industrial

UMI

ERNEST B. SHOEDSACK

AMONG THE RUINS WROUGHT BY A LONG-AGO WAR, BUDDHA SITS IN TYPICAL ORIENTAL CALM

Not a hair of his elaborately dressed head out of place, Buddha presides in unruffled dignity over the ruins of the Wat Mongkol Bopitr at Ayutthaya. Neither the ruin of his shelter nor the encroaching jungle disturbs him. This temple was one of the most resplendent in the ancient capital city of Siam (Bulletin No. 5). Now only crumbling columns and broken fragments of the walls remain. The two men standing at the top of the weed-grown stairway, at the base of the buddha, give an idea of the enormous size of the statue.

Bulletin No. 2, January 10, 1949

"Kitty Hawk" Return Recalls Odd Sidelights

NEWLY enshrined in the Smithsonian Institution at Washington, the first man-carrying airplane now holds the place of honor among outstanding relics of aviation progress. Colonel Lindbergh's immortal *Spirit of St. Louis* and others have given place to the biplane in which the Wright brothers made history at Kitty Hawk, North Carolina, on December 17, 1903.

Exercises at the Smithsonian on the 45th anniversary of the flight marked the official presentation to the American people of the frail craft which was airborne a total of 100 historic seconds in the course of its one-day flying career. The plane is now known as the *Kitty Hawk*.

Buzzards Provide Inspiration

Presentation ceremonies at Smithsonian recalled to old-timers a few strange sidelights of the early days of flying. By odd coincidence, rival flight plans to those of the Wrights were worked out by Dr. Samuel Pierpont Langley within the very walls of the Smithsonian Institution.

Langley, in fact, was the third secretary of the institution and an outstanding physicist and astronomer. Steeped in the physical principles on which flight must depend, he constantly sought clues that might help solve his pet problem. Crossing a Potomac bridge on a windy winter evening, he meditated on the buzzards and their effortless soaring.

Then, after years of experimenting, his steam-powered plane with a 13-foot wingspread was ready for a test. Catapulted from a houseboat on the Potomac on May 6, 1896, it flew more than half a mile unmanned, then landed gently on the water.

Seven years passed before Professor Langley was ready with a man-carrying flying machine. But two attempts to launch it from a Potomac River houseboat ended in failure. The second attempt was on December 8, 1903, only nine days before the Wright brothers' successful flights at Kill Devil Hill.

When Kill Devil Hill Was a "Barkhan"

That hill with the strange name—Kill Devil—furnishes another oddity in the story of pioneer flying. In 1903, it was America's largest barkhan. Now that it has been "anchored" by vegetation to hold the Wright memorial (illustration, next page), it is just a hill.

A barkhan is a traveling mound, or dune, of loose sand. Crescent-shaped, its gently sloping convex front faces into the prevailing winds from which it slowly retreats.

From December, 1903, until it was immobilized in 1929, the 91-foot-high Kill Devil Hill marched southward 500 feet—roughly 20 feet a year. This rate of travel agrees with that of barkhans in desert areas of north Africa and Asia. In Egypt, dunes 60 feet high have been observed to travel as much as 30 feet a year. In Asiatic Russia, barkhans of the Kara Kum, rarely more than 35 feet high, average a 20-foot annual southward shift.

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Britain in exchange for metals, machinery, and equipment for farm and factory use.

Crude hilltop cromlechs and cairns, built in a forgotten age, suggest the antiquity of the land. Boys supply peat for Irish hearths, from which springs the national wealth in romantic folklore. Sentiment clings to short rivers like the Liffey, Lee, and Boyne; to the Lakes of Killarney; and of course, to the River Shannon, largest in the British Isles. Enlarged by canals, it provides a waterway from Dublin west across the Emerald Isle.

NOTE: The Irish Free State (Eire) is shown on the National Geographic Society's Modern Pilgrim's Map of the British Isles. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For additional information, see "Old Ireland, Mother of New Eire," in the *National Geographic Magazine* for May, 1940.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, March 1, 1948, "Eire Changes Little in World of Change."

A. E. CUTLER

DONKEYS BRING PEAT—THE COAL OF EIRE—FROM THE BOGS TO HIGHER GROUND

The vegetation-filled turf, cut in the size of large building bricks from the many bogs of Ireland, must dry for days before being used in the island's countless cottage fireplaces. A special type of spade called a slane is used by turf-cutters in slicing the peat into bricks.

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Bulletin No. 3, January 10, 1949

India's Constitution Bans Untouchability

INDIA'S Constituent Assembly, by giving final approval to the new constitutional clause outlawing Untouchability, has sounded the official death knell for a custom that was old when Julius Caesar raided England in the century before Christ.

The Untouchable classification is believed to have grown out of the rigid caste system that developed after the Aryan invasion of northwest India, more than 3,000 years ago.

Occupation Marks Caste

According to accumulated evidence, the caste sanctions were introduced by the light-skinned conquerors from the Iranian Plateau in order to maintain racial and ruling supremacy over their dark-skinned Dravidian and other subjects. Under this system, the Untouchables came to occupy a position so low in the social and occupational scale that their very shadows falling across the food of the Orthodox Hindu were believed to defile it. Even the presence of Untouchables near some specified places was considered polluting.

At the top of the class pyramid, reserved for the Aryan invaders, was the Brahman caste (illustration, next page)—originally composed of priests and scholars—and the Kshatriya or warrior group, now Rajputs. Next came the Vaisya, or merchant and professional group, and finally the Sudra, including, above the Untouchables, such followers of "clean" occupations as certain farmers, carpenters, barbers, tailors, and goldsmiths.

The Untouchables, as people of no civil or economic rights, were originally assigned the lowest of menial labor. They were the washers, street cleaners, sanitation workers, or leather handlers (an activity especially undesirable because of connection with dead animals). They were not permitted to enter the temples, to use public wells, to attend common schools, or to live near the others in the villages.

In the beginning, it is thought, this "untouchable" status may have been a penalty for breaking the rules. Eventually, with the limitations imposed for life, and passed on from generation to generation, the outcasts numbered millions.

Complete Reform May Be Long Coming

Today, it is estimated that there are some fifty or sixty million members of the "depressed" or "scheduled" classes within the new Indian Dominion, with perhaps eight million in the next-door Moslem state of Pakistan.

The antidiscrimination clause in India's new constitution marks a milestone on the road of legal reform pushed by modern Indian leaders. Previously, restrictions against the Untouchables were reported gradually breaking down in the larger cities. Provincial legislatures have banned unfair distinctions, and various Indian states have opened their temples to all. The central Indian government has announced that caste will play no part in the selection of employees.

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The Kill Devil Hill National Memorial was established by congress in 1927. To anchor the marching dune so that the granite memorial pylon to the Wrights would be permanent, its wind-sculptured beauty had to be sacrificed. Workmen covered its surface with woodland debris, and planted grass and weeds. Gradually, it became parklike.

The Wright brothers conducted their first glider experiments at Dayton, Ohio, their home. They realized they needed stronger, steadier air currents. The United States Weather Bureau, which they consulted, suggested the North Carolina coast.

In October, 1900, they set up camp at Kitty Hawk and tried out gliders flown like kites. The autumns of 1901 and 1902 found them testing gliders four miles to the south from Kill Devil Hill, where, the next year, they achieved man-carrying flight.

NOTE: Kitty Hawk and the Kill Devil National Memorial are shown on the Society's map of the Southeastern United States.

For additional information, see "Aviation in Commerce and Defense," in the *National Geographic Magazine* for December, 1940; and "A Bit of Elizabethan England in America," December, 1933.

CLIFTON ADAMS

THE MONUMENT ATOP KILL DEVIL HILL OVERLOOKS THE SPOT WHERE MAN FIRST FLEW

The Wright brothers came to this sandy stretch of North Carolina's coast to let its constant winds aid their experiments. The white stone seemingly at the base of the hill is a marker 600 feet north of it where the "Kitty Hawk" actually left the ground on its first, 12-second flight, December 17, 1903. With the brothers Orville and Wilbur alternating at the controls, four flights were made that day—the last one of 852 feet in 59 seconds. A sudden gust rolled the plane over and damaged it, preventing further experiments.

Uranium Prospectors Made '48 Banner Year

A HUNDRED years after the "forty-niners" struck it rich in California gold, a world-wide uranium rush is opening up undeveloped lands, sparking new settlements, and "radioactivating" old ghost towns of once-abandoned mining areas where uranium was formerly a nuisance.

On every settled continent and on many islands, new and already-worked uranium fields contributed in the last year to atomic piles or to research activities. Uranium hunters explored colonies as well as home territories. As independents, or as technicians on government payrolls, they struck out into Arctic and tropical lands, into the hills and mountains, and into lake and desert regions.

Found in Pitchblende, Carnotite, and Other Minerals

Today's prospectors ride jeeps and trailers instead of mules, and seek their fortunes with scientific Geiger counters instead of sluicing pans and pickaxes. But they are hitting the trail with oldtime enthusiasm, and meeting familiar problems of claim jumpers and short supplies.

The chief uranium-bearing mineral sought is pitchblende, also mother ore of radium. A second is carnotite, with scores of other mineral compounds containing traces of the atomic-age substance.

The rich pitchblende deposits of the Belgian Congo and Canada's Great Bear Lake region, which supplied experimental materials for the first atom bomb, are still considered the world's outstanding uranium sources. Czechoslovakia's pitchblende from the Jachymov mines is often mentioned, along with the newly important carnotite ores of Colorado, Utah, New Mexico, and Arizona, and the extensive but uranium-light titanium of Arkansas.

Possibly one of the most important domestic developments is the currently reported discovery of a very rich vein of pitchblende on the eastern slope of the Rocky Mountains in Colorado.

The List of Source-countries Grows

The past year brought many interesting developments around the world, as Geiger counters registered "high-grade squeals" in California, Alaska, British Columbia, Manitoba, Ontario, and Saskatchewan. In South Australia, Mt. Painter's long known uranium deposits (which also shared in the early atom-bomb creation) recently gained a higher rating for "intensity" and extent.

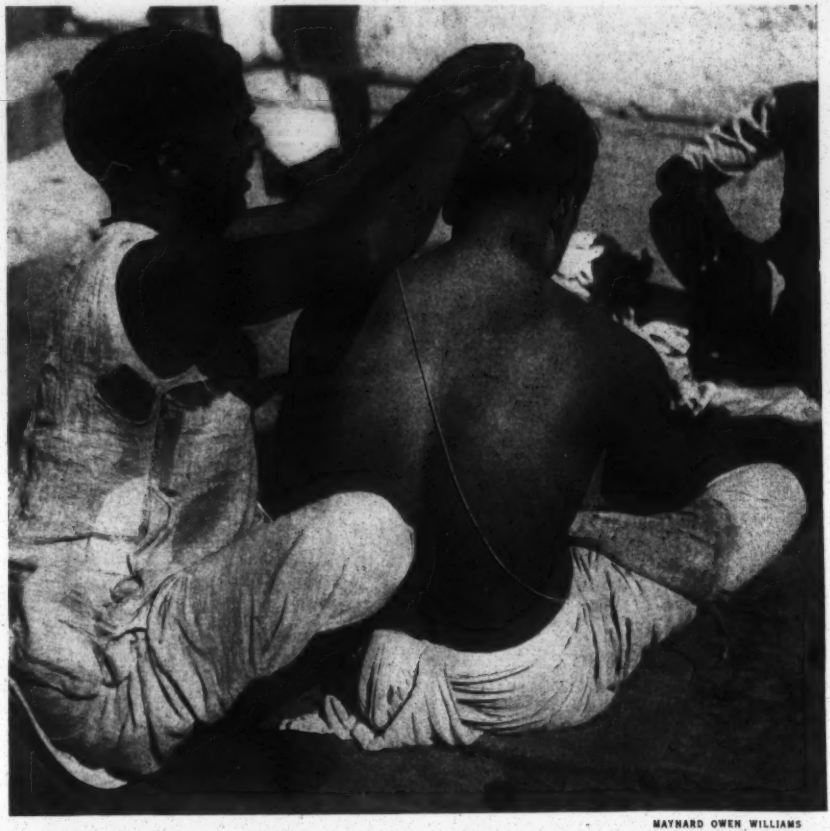
Gold- and diamond-endowed South Africa disclosed new uranium wealth in 1948. Valuable ores turned up in Portugal's African possession, Mozambique. A "huge" find was reported on Denmark's Bornholm Island (illustration, next page), site of wartime atomic experiments by the Nazis. Another Danish strike was made in ice-crowned Greenland.

News reports indicated uranium discoveries in Norway, Sweden, Bulgaria, France, Portugal, Spain, and England—the latter also drawing on overseas holdings. Hungary announced finds. So did Italy's Mediterranean island of Sardinia. France, which, like Norway, is building

Among the mass population, however, the caste system is rooted in millenniums of tradition and religious faith. Although by-passed or modified by more Westernized Indians, strict taboos and demands of the system still determine what and where and with whom pious Hindus may eat, what class they may or may not marry into, and what profession or occupation they may choose. A protracted period of evolution seems likely before the official ban on caste sanction is accepted and observed by all elements of the nation's society.

NOTE: The Dominion of India is shown on the Society's map of India and Burma.

For further information, see "Feudal Splendor Lingers in Rajputana," in the *National Geographic Magazine* for October, 1948; "The Idyllic Vale of Kashmir," April, 1948; "Delhi, Capital of a New Dominion," November, 1947; "India—Yesterday, Today, and Tomorrow," October, 1943*; and in the GEOGRAPHIC SCHOOL BULLETINS, December 13, 1948, "Glacier-Framed Kashmir Is Pawn in Struggle"; and "Hyderabad Holds India's Famed Cave Temples," October 11, 1948. *(Issues marked with an asterisk are included on a special list of Magazines available to teachers in packets of ten for $1.00.)*



MAYNARD OWEN WILLIAMS

A BRAHMAN—MEMBER OF INDIA'S HIGHEST CASTE—GETS A SIDEWALK HAIRCUT IN BENARES

The cord over his shoulder proclaims to Untouchables and others of lower station that the wearer has faithfully performed all rituals of the Brahman caste. His haircut is another ritual, necessary before bathing in the holy Ganges. Most barbers belong to the Sudra caste, a step higher than the Untouchables.

Bulletin No. 5, January 10, 1949

Siam May Trade Rice for Railroads

RUMORS that Britain may supply arms to the Siamese Army suggests the importance of that nation's position in the explosive Far East.

Nearly surrounding Siam are nations torn by civil strife. Burma, bordering it on the west, has been an independent republic for a year but internal affairs are still in considerable confusion. To the east, curling around nearly half of Siam's 200,000-square-mile area, lies chaotic French Indochina. Northward, beyond the junction of Burma and French Indochina, China's warring factions keep that giant country in turmoil.

Less Crowded than Neighboring Nations

To many Westerners, the name Siam suggests lumbering elephants, domed and gilded temples, and dancers with strange angular gestures and dazzling spike-topped headdresses. To some 16,000,000 Siamese, the tropical Far East kingdom is Muang Thai, meaning "Land of the Free."

This land between Burma and French Indochina is less crowded than most of its neighbors. Its 80-people-to-the-square-mile is only half the density of the Philippines population, one-third that of India and of China, one-sixth that of Japan.

Siam is valuable to Britain as a source of rice, chief food of the native population of British territories in the Orient. Before World War II, Siam raised more than 5,000,000 tons a year. Three-fifths of it is grown on the fertile plains along the MeNam (Chao Phraya River) and its tributaries, one-fourth on the Korat Plateau of eastern Siam, one-tenth on the long tongue of land extending down the Malay Peninsula. The 1948 exports of rice amounted to about 800,000 tons. It is estimated that about a million tons will be shipped out in 1949.

During the war Allied bombing ruined Siam's railroads and their still-dilapidated state makes delivery of the country's huge rice crop to shipping points a serious problem.

Most Siamese Are Rice Farmers

England can supply equipment for the restoration of the railways. A trade mission from Siam recently visited England to arrange for using the five-million-pound balance that Siam had accumulated in Britain for supplying the British with rice. With this balance, Siam hopes to acquire locomotives, rails, and other necessary equipment.

Most of the Siamese are farmers. Rich silt is deposited by floods on the rice-growing plains of the MeNam valley. Even among farmers who breed horses, cattle, and buffaloes, rice cultivation is important.

Other exports of Siam are rubber, teakwood, and ores of tin and tungsten. British workers supervised lumbering operations in the teak forests of the northern mountains. Elephants piled the logs, and when the rains came the valuable timber was carried down the MeNam to Bangkok.

Bangkok (Krung Thep) has been capital of Siam since 1782. It replaced as seat of government the old city of Ayutthaya (Ayudhya) (illustration, inside cover), which the Burmese destroyed in 1767.

its own atomic pile, started to draw part of its raw materials from the big French island of Madagascar, off East Africa.

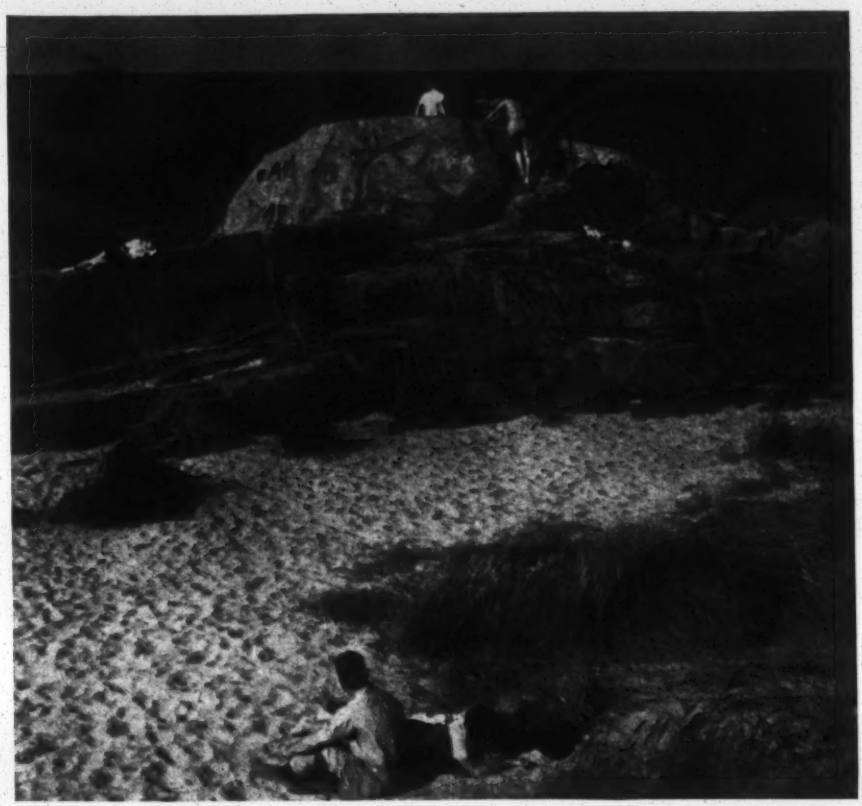
Mexico, Argentina, Chile, and Brazil were known to have uranium ores. In Asia, Burma and China were specially noted. Although little is available concerning Russian efforts, reports pointed to uranium mining in the Soviet zone of Germany, and probable activity in the Ural Mountains and elsewhere.

Although the uranium-containing ores are plentiful and widely scattered, uranium itself is rated almost as scarce as gold. It is difficult to extract, and in the purified form only one out of 140 parts is the U-235 variant that can be split to release fabulous atomic energy.

For military security, nations withhold complete figures on uranium production. Large bonuses and special mining advantages are offered the discoverers of high-grade ores.

NOTE: Areas of uranium-ore discovery may be located on the Society's World Map. See also, "Operation Crossroads," in the *National Geographic Magazine* for April, 1947; and "Metal Sinews of Strength," April, 1942.

And in the GEOGRAPHIC SCHOOL BULLETINS, October 18, 1948, see "Uranium Found in Canada's Flin Flon Region"; "New Uranium Fields Boost World's Resources," March 22, 1948; and "India's Travancore Has Atomic Material," January 20, 1947.



JONALS CO.

BORNHOLM, DENMARK'S PLAYGROUND ISLAND, JOINS THE LIST OF URANIUM-REPORTING LANDS

A city of 700,000 people, it is situated 20 miles up the MeNam from the Gulf of Siam. Crisscrossed with a network of canals into an Oriental version of Venice, the city presents striking contrasts. Modern concrete buildings are Western accents in a scene of "more than Oriental splendor" where temple spires point skyward, ornamented with fantastic statues of mythical birds, beasts, and gods. Through lines of shade trees and under graceful arched bridges, waterways traverse the residential sections. "Downtown" they float a marine market of little sampans, launches, and barges selling fruit, vegetables, or what-need-you.

NOTE: Siam is shown on the Society's map of Southeast Asia.

See also, "Scintillating Siam" and "Pageantry of the Siamese Stage," in the *National Geographic Magazine* for February, 1947; and "Ancient Temples and Modern Guns in Thailand" (10 photographs), November, 1941*; and, in the GEOGRAPHIC SCHOOL BULLETINS, November 5, 1945, "To Outsiders, Thailand Is Once More Siam."

DRAWN BY ROY W. COLLINS AND IRVIN E. ALLEMAN

SIAM'S THREE CAPITALS LINE UP ALONG THE CENTRAL RIVER VALLEY

Upriver from Krung Thep, present capital (better known as Bangkok), lie the ruins of the ancient capital, Ayutthaya, of the many spellings. Up a branch stream is Phetchabun, to which the Japs moved the capital during their occupation.